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<110> Tew, Kenneth D.
      Vulevic, Bojana
      Chen, Zhijian

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      Transporter 2 and Methods of Use Thereof

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5

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His Gly Leu Leu Val Lys Arg Phe His Cys Ala Arg Arg Asn Ser Lys
               1445                      1450                      1455
Ala Leu Phe Ser Gln Ile Leu Leu Pro Ala Phe Phe Val Cys Val Ala
           1460                      1465                      1470
Met Thr Val Ala Leu Ser Val Pro Glu Ile Gly Asp Leu Pro Pro Leu
           1475                      1480                      1485
Val Leu Ser Pro Ser Gln Tyr His Asn Tyr Thr Gln Pro Arg Gly Asn
       1490                      1495                      1500
Phe Ile Pro Tyr Ala Asn Glu Glu Arg Arg Glu Tyr Arg Leu Arg Leu
1505                      1510                      1515                      1520
Ser Pro Asp Ala Ser Pro Gln Gln Leu Val Ser Thr Phe Arg Leu Pro
               1525                      1530                      1535
```

```
Ser Gly Val Gly Ala Thr Cys Val Leu Lys Ser Pro Ala Asn Gly Ser
          1540              1545            1550
Leu Gly Pro Thr Leu Asn Leu Ser Ser Gly Glu Ser Arg Leu Leu Ala
          1555              1560            1565
Ala Arg Phe Phe Asp Ser Met Cys Leu Glu Ser Phe Thr Gln Gly Leu
          1570              1575            1580
Pro Leu Ser Asn Phe Val Pro Pro Pro Ser Pro Ala Pro Ser Asp
1585              1590            1595                  1600
Ser Pro Ala Ser Pro Asp Glu Asp Leu Gln Ala Trp Asn Val Ser Leu
          1605              1610            1615
Pro Pro Thr Ala Gly Pro Glu Met Trp Thr Ser Ala Pro Ser Leu Pro
          1620              1625            1630
Arg Leu Val Arg Glu Pro Val Arg Cys Thr Cys Ser Ala Gln Gly Thr
          1635              1640            1645
Gly Phe Ser Cys Pro Ser Ser Val Gly Gly His Pro Pro Gln Met Arg
          1650              1655            1660
Val Val Thr Gly Asp Ile Leu Thr Asp Ile Thr Gly His Asn Val Ser
1665              1670            1675                  1680
Glu Tyr Leu Leu Phe Thr Ser Asp Arg Phe Arg Leu His Arg Tyr Gly
          1685              1690            1695
Ala Ile Thr Phe Gly Asn Val Leu Lys Ser Ile Pro Ala Ser Phe Gly
          1700              1705            1710
Thr Arg Ala Pro Pro Met Val Arg Lys Ile Ala Val Arg Arg Ala Ala
          1715              1720            1725
Gln Val Phe Tyr Asn Asn Lys Gly Tyr His Ser Met Pro Thr Tyr Leu
          1730              1735            1740
Asn Ser Leu Asn Asn Ala Ile Leu Arg Ala Asn Leu Pro Lys Ser Lys
1745              1750            1755                  1760
Gly Asn Pro Ala Ala Tyr Gly Ile Thr Val Thr Asn His Pro Met Asn
          1765              1770            1775
Lys Thr Ser Ala Ser Leu Ser Leu Asp Tyr Leu Leu Gln Gly Thr Asp
          1780              1785            1790
Val Val Ile Ala Ile Phe Ile Ile Val Ala Met Ser Phe Val Pro Ala
          1795              1800            1805
Ser Phe Val Val Phe Leu Val Ala Glu Lys Ser Thr Lys Ala Lys His
          1810              1815            1820
Leu Gln Phe Val Ser Gly Cys Asn Pro Ile Ile Tyr Trp Leu Ala Asn
1825              1830            1835                  1840
Tyr Val Trp Asp Met Leu Asn Tyr Leu Val Pro Ala Thr Cys Cys Val
          1845              1850            1855
Ile Ile Leu Phe Val Phe Asp Leu Pro Ala Tyr Thr Ser Pro Thr Asn
          1860              1865            1870
Phe Pro Ala Val Leu Ser Leu Phe Leu Leu Tyr Gly Trp Ser Ile Thr
          1875              1880            1885
Pro Ile Met Tyr Pro Ala Ser Phe Trp Phe Glu Val Pro Ser Ser Ala
          1890              1895            1900
Tyr Val Phe Leu Ile Val Ile Asn Leu Phe Ile Gly Ile Thr Ala Thr
1905              1910            1915                  1920
Val Ala Thr Phe Leu Leu Gln Leu Phe Glu His Asp Lys Asp Leu Lys
          1925              1930            1935
Val Val Asn Ser Tyr Leu Lys Ser Cys Phe Leu Ile Phe Pro Asn Tyr
          1940              1945            1950
Asn Leu Gly His Gly Leu Met Glu Met Ala Tyr Asn Glu Tyr Ile Asn
          1955              1960            1965
Glu Tyr Tyr Ala Lys Ile Gly Gln Phe Asp Lys Met Lys Ser Pro Phe
          1970              1975            1980
Glu Trp Asp Ile Val Thr Arg Gly Leu Val Ala Met Ala Val Glu Gly
1985              1990            1995                  2000
Val Val Gly Phe Leu Leu Thr Ile Met Cys Gln Tyr Asn Phe Leu Arg
          2005              2010            2015
Arg Pro Gln Arg Met Pro Val Ser Thr Lys Pro Val Glu Asp Asp Val
```

```
              2020                    2025                    2030
Asp Val Ala Ser Glu Arg Gln Arg Val Leu Arg Gly Asp Ala Asp Asn
         2035                    2040                    2045
Asp Met Val Lys Ile Glu Asn Leu Thr Lys Val Tyr Lys Ser Arg Lys
    2050                    2055                    2060
Ile Gly Arg Ile Leu Ala Val Asp Arg Leu Cys Leu Gly Val Arg Pro
2065                    2070                    2075                    2080
Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Thr Ser
              2085                    2090                    2095
Thr Phe Lys Met Leu Thr Gly Asp Glu Ser Thr Thr Gly Gly Glu Ala
         2100                    2105                    2110
Phe Val Asn Gly His Ser Val Leu Lys Glu Leu Leu Gln Val Gln Gln
         2115                    2120                    2125
Ser Leu Gly Tyr Cys Pro Gln Cys Asp Ala Leu Phe Asp Glu Leu Thr
    2130                    2135                    2140
Ala Arg Glu His Leu Gln Leu Tyr Thr Arg Leu Arg Gly Ile Ser Trp
2145                    2150                    2155                    2160
Lys Asp Glu Ala Arg Val Val Lys Trp Ala Leu Glu Lys Leu Glu Leu
              2165                    2170                    2175
Thr Lys Tyr Ala Asp Lys Pro Ala Gly Thr Tyr Ser Gly Gly Asn Lys
         2180                    2185                    2190
Arg Lys Leu Ser Thr Ala Ile Ala Leu Ile Gly Tyr Pro Ala Phe Ile
         2195                    2200                    2205
Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Lys Ala Arg Arg Phe
    2210                    2215                    2220
Leu Trp Asn Leu Ile Leu Asp Leu Ile Lys Thr Gly Arg Ser Val Val
2225                    2230                    2235                    2240
Leu Thr Ser His Ser Met Glu Glu Cys Glu Ala Leu Cys Thr Arg Leu
              2245                    2250                    2255
Ala Ile Met Val Asn Gly Arg Leu Arg Cys Leu Gly Ser Ile Gln His
         2260                    2265                    2270
Leu Lys Asn Arg Phe Gly Asp Gly Tyr Met Ile Thr Val Arg Thr Lys
         2275                    2280                    2285
Ser Ser Gln Ser Val Lys Asp Val Val Arg Phe Phe Asn Arg Asn Phe
    2290                    2295                    2300
Pro Glu Ala Met Leu Lys Glu Arg His His Thr Lys Val Gln Tyr Gln
2305                    2310                    2315                    2320
Leu Lys Ser Glu His Ile Ser Leu Ala Gln Val Phe Ser Lys Met Glu
              2325                    2330                    2335
Gln Val Ser Gly Val Leu Gly Ile Glu Asp Tyr Ser Val Ser Gln Thr
         2340                    2345                    2350
Thr Leu Asp Asn Val Phe Val Asn Phe Ala Lys Lys Gln Ser Asp Asn
         2355                    2360                    2365
Leu Glu Gln Gln Glu Thr Glu Pro Pro Ser Ala Leu Gln Ser Pro Leu
    2370                    2375                    2380
Gly Cys Leu Leu Ser Leu Leu Arg Pro Arg Ser Ala Pro Thr Glu Leu
2385                    2390                    2395                    2400
Arg Ala Leu Val Ala Asp Glu Pro Glu Asp Leu Asp Thr Glu Asp Glu
              2405                    2410                    2415
Gly Leu Ile Ser Phe Glu Glu Glu Arg Ala Gln Leu Ser Phe Asn Thr
         2420                    2425                    2430
Asp Thr Leu Cys
         2435


    <210> 3
    <211> 27
    <212> DNA
    <213> Artificial Sequence

    <220>
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<223> PCR Primer

<400> 3
ccatcctaat acgactcact atagggc   27

<210> 4
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 4
tgagtttgtc cacgcagaca accagag   27

<210> 5
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 5
actcactata gggctcgagc ggc   23

<210> 6
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 6
ccagctccac tcccaggctt ctg   23

<210> 7
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

<400> 7
ccactgggca gcgagaagtt gtc   23

<210> 8
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Primer

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      <400> 8
gaagctggag ttctggcgga tct                                          23


      <210> 9
      <211> 27
      <212> DNA
      <213> Artificial Sequence

      <220>
      <223> PCR Primer

      <400> 9
cagaccacac tggacaatgt gttcgtg                                      27


      <210> 10
      <211> 23
      <212> DNA
      <213> Artificial Sequence

      <220>
      <223> PCR Primer

      <400> 10
tcatcagctt cgaggaggag cgg                                          23


      <210> 11
      <211> 29
      <212> DNA
      <213> Artificial Sequence

      <220>
      <223> PCR Primer

      <400> 11
ataagcttgc tgaggcggcg gagcgtggc                                    29


      <210> 12
      <211> 20
      <212> DNA
      <213> Artificial Sequence

      <220>
      <223> PCR Primer

      <400> 12
ccactgggcg agaagttgtc                                              20


      <210> 13
      <211> 20
      <212> DNA
      <213> Artificial Sequence

      <220>
      <223> PCR Primer
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        <400> 13
cctcattttc ccctacaacc                                            20


        <210> 14
        <211> 26
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 14
acctgctcca tcttgctgct gaacac                                     26


        <210> 15
        <211> 21
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 15
cagcggcggc aacaagcgga a                                          21


        <210> 16
        <211> 30
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 16
ggtgaattcg gcaggcactg ggggacttgt                                 30


        <210> 17
        <211> 28
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 17
tagtactcct tgggcttcct gcaccagc                                   28


        <210> 18
        <211> 24
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 18
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ccagggcaga tgagggacca aaga   24

        <210> 19
        <211> 23
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 19
catccagcag gtcccccaga agc   23

        <210> 20
        <211> 36
        <212> DNA
        <213> Artificial Sequence

        <220>
        <221> misc_feature
        <222> (24, 25, 29, 30, 34, 35)
        <223> n = Inosine (I)

        <400> 20
ggccacgcgt cgactagtac gggnngggnn gggnng   36

        <210> 21
        <211> 25
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 21
aaacaggttg cccttcctcc accac   25

        <210> 22
        <211> 20
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 22
ggccacgcgt cgactagtac   20

        <210> 23
        <211> 22
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

12

```
<400> 23
acagcgattg catgacaggc ag                                          22


        <210> 24
        <211> 21
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 24
agggagctgg ctacaccgac g                                           21


        <210> 25
        <211> 21
        <212> DNA
        <213> Artificial Sequence

        <220>
        <223> PCR Primer

        <400> 25
cgcctgtgac cacccgcatc t                                           21


        <210> 26
        <211> 188
        <212> PRT
        <213> Homo Sapiens


        <400> 26
Ala Val Asp Gly Leu Ala Leu Asn Phe Tyr Glu Gly Gln Ile Thr Ser
 1               5                  10                  15
Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Met Ser Ile Leu
            20                  25                  30
Thr Gly Leu Phe Pro Pro Thr Ser Gly Thr Ala Tyr Ile Leu Gly Lys
        35                  40                  45
Asp Ile Arg Ser Glu Met Ser Thr Ile Arg Gln Asn Leu Gly Val Cys
    50                  55                  60
Pro Gln His Asn Val Leu Phe Asp Met Leu Thr Val Glu Glu His Ile
65                  70                  75                  80
Trp Phe Tyr Ala Arg Leu Lys Gly Leu Ser Glu Lys His Val Lys Ala
                85                  90                  95
Glu Met Glu Gln Met Ala Leu Asp Val Gly Leu Pro Ser Ser Lys Leu
            100                 105                 110
Lys Ser Lys Thr Ser Gln Leu Ser Gly Gly Met Gln Arg Lys Leu Ser
            115                 120                 125
Val Ala Leu Ala Phe Val Gly Gly Ser Lys Val Val Ile Leu Asp Glu
    130                 135                 140
Pro Thr Ala Gly Val Asp Pro Tyr Ser Arg Arg Gly Ile Trp Glu Leu
145                 150                 155                 160
Leu Leu Lys Tyr Arg Gln Gly Arg Thr Ile Ile Leu Ser Thr His His
                165                 170                 175
Met Asp Glu Ala Asp Val Leu Gly Asp Arg Ile Ala
            180                 185


        <210> 27
```

13

```
<211> 183
<212> PRT
<213> Homo Sapiens

<400> 27
Ala Val Asp Arg Ile Cys Val Gly Ile Pro Pro Gly Glu Cys Phe Gly
1               5                   10                  15
Leu Leu Gly Val Asn Gly Ala Gly Lys Ser Ser Thr Phe Lys Met Leu
            20                  25                  30
Thr Gly Asp Thr Thr Val Thr Arg Gly Asp Ala Phe Leu Asn Arg Asn
            35                  40                  45
Ser Ile Leu Ser Asn Ile His Glu Val His Gln Asn Met Gly Tyr Cys
    50                  55                  60
Pro Gln Phe Asp Ala Ile Thr Glu Leu Leu Thr Gly Arg Glu His Val
65                  70                  75                      80
Glu Phe Phe Ala Leu Leu Arg Gly Val Pro Glu Lys Glu Val Gly Lys
                85                  90                  95
Val Gly Glu Trp Ala Ile Arg Lys Leu Gly Leu Val Lys Tyr Gly Glu
                100                 105                 110
Lys Tyr Ala Gly Asn Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr
        115                 120                 125
Ala Met Ala Leu Ile Gly Gly Pro Pro Val Val Phe Leu Asp Glu Pro
    130                 135                 140
Thr Thr Gly Met Asp Pro Lys Ala Arg Arg Phe Leu Trp Asn Cys Ala
145                 150                 155                     160
Leu Ser Val Val Lys Glu Gly Arg Ser Val Val Leu Thr Ser His Ser
                165                 170                 175
Met Glu Glu Cys Glu Ala Leu
            180


<210> 28
<211> 187
<212> PRT
<213> Mus musculus

<400> 28
Ala Leu Asn Lys Leu Ser Leu Asn Leu Tyr Glu Asn Gln Val Val Ser
1               5                   10                  15
Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Met Ser Ile Leu
            20                  25                  30
Thr Gly Leu Phe Pro Pro Thr Ser Gly Ser Ala Thr Ile Tyr Gly His
            35                  40                  45
Asp Ile Arg Thr Glu Met Asp Glu Ile Arg Lys Asn Leu Gly Met Cys
    50                  55                  60
Pro Gln His Asn Val Leu Phe Asp Arg Leu Thr Val Glu Glu His Leu
65                  70                  75                      80
Trp Phe Tyr Ser Arg Leu Lys Ser Met Ala Gln Glu Glu Ile Arg Lys
                85                  90                  95
Glu Thr Asp Lys Met Ile Glu Asp Leu Glu Leu Ser Asn Lys Arg His
                100                 105                 110
Ser Leu Val Gln Thr Leu Ser Gly Gly Met Lys Arg Lys Leu Ser Val
        115                 120                 125
Ala Ile Ala Phe Val Gly Gly Ser Arg Ala Ile Ile Leu Asp Glu Pro
    130                 135                 140
Thr Ala Gly Val Asp Pro Tyr Ala Arg Arg Ala Ile Trp Asp Leu Ile
145                 150                 155                     160
Leu Lys Tyr Lys Pro Gly Arg Thr Ile Leu Leu Ser Thr His His Met
                165                 170                 175
Asp Glu Ala Asp Leu Leu Gly Asp Arg Ile Ala
            180                 185
```

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<210> 29
<211> 184
<212> PRT
<213> Mus musculus

<400> 29

```
Ala Val Asp Arg Leu Cys Leu Gly Val Cys Val Pro Gly Glu Cys Phe
1               5                   10                  15
Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Thr Ser Thr Phe Lys Met
            20                  25                  30
Leu Thr Gly Asp Glu Ser Thr Thr Gly Gly Glu Ala Phe Val Asn Gly
            35                  40                  45
His Ser Val Leu Lys Asp Leu Leu Gln Val Gln Gln Ser Leu Gly Tyr
    50                  55                  60
Cys Pro Gln Phe Asp Ala Leu Phe Asp Glu Leu Thr Ala Arg Glu His
65                  70                  75                  80
Leu Gln Leu Tyr Thr Arg Leu Arg Gly Ile Pro Trp Lys Asp Glu Ala
                85                  90                  95
Gln Val Val Lys Trp Ala Leu Glu Lys Leu Glu Leu Thr Lys Tyr Ala
            100                 105                 110
Asp Lys Pro Ala Gly Thr Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser
            115                 120                 125
Thr Ala Ile Ala Leu Ile Gly Tyr Pro Ala Phe Ile Phe Leu Asp Glu
    130                 135                 140
Pro Thr Thr Gly Met Asp Pro Lys Ala Arg Arg Phe Leu Trp Asn Leu
145                 150                 155                 160
Ile Leu Asp Leu Ile Lys Thr Gly Arg Ser Val Val Leu Thr Ser His
                165                 170                 175
Ser Met Glu Glu Cys Glu Ala Leu
            180
```

<210> 30
<211> 187
<212> PRT
<213> Homo sapiens

<400> 30

```
Ala Leu Asn Lys Leu Ser Leu Asn Leu Tyr Glu Asn Gln Val Val Ser
1               5                   10                  15
Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Met Ser Ile Leu
            20                  25                  30
Thr Gly Leu Phe Pro Pro Thr Ser Gly Ser Ala Thr Ile Tyr Gly His
            35                  40                  45
Asp Ile Arg Thr Glu Met Asp Glu Ile Arg Lys Asn Leu Gly Met Cys
    50                  55                  60
Pro Gln His Asn Val Leu Phe Asp Arg Leu Thr Val Glu Glu His Leu
65                  70                  75                  80
Trp Phe Tyr Ser Arg Leu Lys Ser Met Ala Gln Glu Glu Ile Arg Arg
                85                  90                  95
Glu Met Asp Lys Met Ile Glu Asp Leu Glu Leu Ser Asn Lys Arg His
            100                 105                 110
Ser Leu Val Gln Thr Leu Ser Gly Gly Met Lys Arg Lys Leu Ser Val
            115                 120                 125
Ala Ile Ala Phe Val Gly Gly Ser Arg Ala Ile Ile Leu Asp Glu Pro
    130                 135                 140
Thr Ala Gly Val Asp Pro Tyr Ala Arg Arg Ala Ile Trp Asp Leu Ile
145                 150                 155                 160
Leu Lys Tyr Lys Pro Gly Arg Thr Ile Leu Leu Ser Thr His His Met
```

15

```
                    165                        170                           175
Asp Glu Ala Asp Leu Leu Gly Asp Arg Ile Ala
            180                        185


        <210> 31
        <211> 183
        <212> PRT
        <213> Homo sapiens


        <400> 31
Ala Val Asp Arg Leu Cys Leu Gly Val Arg Pro Gly Glu Cys Phe Gly
 1               5                   10                  15
Leu Leu Gly Val Asn Gly Ala Gly Lys Thr Ser Thr Phe Lys Met Leu
            20                  25                  30
Thr Gly Asp Glu Ser Thr Thr Gly Gly Glu Ala Phe Val Asn Gly His
            35                  40                  45
Ser Val Leu Lys Glu Leu Leu Gln Val Gln Gln Ser Leu Gly Tyr Cys
    50                  55                  60
Pro Gln Cys Asp Ala Leu Phe Asp Glu Leu Thr Ala Arg Glu His Leu
65                  70                  75                      80
Gln Leu Tyr Thr Arg Leu Arg Gly Ile Ser Trp Lys Asp Glu Ala Arg
            85                  90                  95
Val Val Lys Trp Ala Leu Glu Lys Leu Glu Leu Thr Lys Tyr Ala Asp
            100                 105                 110
Lys Pro Ala Gly Thr Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr
            115                 120                 125
Ala Ile Ala Leu Ile Gly Tyr Pro Ala Phe Ile Phe Leu Asp Glu Pro
    130                 135                 140
Thr Thr Gly Met Asp Pro Lys Ala Arg Arg Phe Leu Trp Asn Leu Ile
145                 150                 155                     160
Leu Asp Leu Ile Lys Thr Gly Arg Ser Val Val Leu Thr Ser His Ser
            165                 170                 175
Met Glu Glu Cys Glu Ala Leu
            180


        <210> 32
        <211> 187
        <212> PRT
        <213> Homo sapiens


        <400> 32
Ala Val Arg Asp Leu Asn Leu Asn Leu Tyr Glu Gly Gln Ile Thr Val
 1               5                   10                  15
Leu Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Leu Ser Met Leu
            20                  25                  30
Thr Gly Leu Phe Pro Pro Thr Ser Gly Arg Ala Tyr Ile Ser Gly Tyr
            35                  40                  45
Glu Ile Ser Gln Asp Met Val Gln Ile Arg Lys Ser Leu Gly Leu Cys
    50                  55                  60
Pro Gln His Asp Ile Leu Phe Asp Asn Leu Thr Val Ala Glu His Leu
65                  70                  75                      80
Tyr Phe Tyr Ala Gln Leu Lys Gly Leu Ser Arg Gln Lys Cys Pro Glu
            85                  90                  95
Glu Val Lys Gln Met Leu His Ile Ile Gly Leu Glu Asp Lys Trp Asn
            100                 105                 110
Ser Arg Ser Arg Phe Leu Ser Gly Gly Met Arg Arg Lys Leu Ser Ile
            115                 120                 125
Gly Ile Ala Leu Ile Ala Gly Ser Lys Val Leu Ile Leu Asp Glu Pro
    130                 135                 140
```

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Thr Ser Gly Met Asp Ala Ile Ser Arg Arg Ala Ile Trp Asp Leu Leu
145   150   155   160
Gln Arg Gln Lys Ser Asp Arg Thr Ile Val Leu Thr Thr His Phe Met
            165   170   175
Asp Glu Ala Asp Leu Leu Gly Asp Arg Ile Ala
            180   185

        <210> 33
        <211> 183
        <212> PRT
        <213> Homo sapiens

        <400> 33
Ala Val Asp Arg Leu Ser Leu Ala Val Gln Lys Gly Glu Cys Phe Gly
 1   5   10   15
Leu Leu Gly Phe Asn Gly Ala Gly Lys Thr Thr Thr Phe Lys Met Leu
            20   25   30
Thr Gly Glu Glu Ser Leu Thr Ser Gly Asp Ala Phe Val Gly Gly His
            35   40   45
Arg Ile Ser Ser Asp Val Gly Lys Val Arg Gln Arg Ile Gly Tyr Cys
    50   55   60
Pro Gln Phe Asp Ala Leu Leu Asp His Met Thr Gly Arg Glu Met Leu
65   70   75   80
Val Met Tyr Ala Arg Leu Arg Gly Ile Pro Glu Arg His Ile Gly Ala
                85   90   95
Cys Val Glu Asn Thr Leu Arg Gly Leu Leu Leu Glu Pro His Ala Asn
            100   105   110
Lys Leu Val Arg Thr Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr
            115   120   125
Gly Ile Ala Leu Ile Gly Glu Pro Ala Val Ile Phe Leu Asp Glu Pro
    130   135   140
Ser Thr Gly Met Asp Pro Val Ala Arg Arg Leu Leu Trp Asp Thr Val
145   150   155   160
Ala Arg Ala Arg Glu Ser Gly Lys Ala Ile Ile Ile Thr Ser His Ser
            165   170   175
Met Glu Glu Cys Glu Ala Leu
            180

        <210> 34
        <211> 187
        <212> PRT
        <213> Homo sapiens

        <400> 34
Ala Val Asp Arg Leu Asn Ile Thr Phe Tyr Glu Asn Gln Ile Thr Ala
 1   5   10   15
Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Thr Leu Ser Ile Leu
            20   25   30
Thr Gly Leu Leu Pro Pro Thr Ser Gly Thr Val Leu Val Gly Gly Arg
            35   40   45
Asp Ile Glu Thr Ser Leu Asp Ala Val Arg Gln Ser Leu Gly Met Cys
    50   55   60
Pro Gln His Asn Ile Leu Phe His His Leu Thr Val Ala Glu His Met
65   70   75   80
Leu Phe Tyr Ala Gln Leu Lys Gly Lys Ser Gln Glu Glu Ala Gln Leu
                85   90   95
Glu Met Glu Ala Met Leu Glu Asp Thr Gly Leu His His Lys Arg Asn
            100   105   110
Glu Glu Ala Gln Asp Leu Ser Gly Gly Met Gln Arg Lys Leu Ser Val

                                    17

```
              115                      120                      125
Ala Ile Ala Phe Val Gly Asp Ala Lys Val Val Ile Leu Asp Glu Pro
         130                      135                      140
Thr Ser Gly Val Asp Pro Tyr Ser Arg Arg Ser Ile Trp Asp Leu Leu
145                      150                      155                      160
Leu Lys Tyr Arg Ser Gly Arg Thr Ile Ile Met Ser Thr His His Met
                   165                      170                      175
Asp Glu Ala Asp Leu Leu Gly Asp Arg Ile Ala
              180                      185


          <210> 35
          <211> 183
          <212> PRT
          <213> Homo Sapiens


          <400> 35
Ala Val Asp Arg Leu Cys Val Gly Val Arg Pro Gly Glu Cys Phe Gly
1                   5                      10                      15
Leu Leu Gly Val Asn Gly Ala Gly Lys Thr Thr Thr Phe Lys Met Leu
              20                      25                      30
Thr Gly Asp Thr Thr Val Thr Ser Gly Asp Ala Thr Val Ala Gly Lys
         35                      40                      45
Ser Ile Leu Thr Asn Ile Ser Glu Val His Gln Asn Met Gly Tyr Cys
         50                      55                      60
Pro Gln Phe Asp Ala Ile Asp Glu Leu Leu Thr Gly Arg Glu His Leu
65                      70                      75                      80
Tyr Leu Tyr Ala Arg Leu Arg Gly Val Pro Ala Glu Glu Ile Glu Lys
                   85                      90                      95
Val Ala Asn Trp Ser Ile Lys Ser Leu Gly Leu Thr Val Tyr Ala Asp
              100                      105                      110
Cys Leu Ala Gly Thr Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr
         115                      120                      125
Ala Ile Ala Leu Ile Gly Cys Pro Pro Leu Val Leu Leu Asp Glu Pro
         130                      135                      140
Thr Thr Gly Met Asp Pro Gln Ala Arg Arg Met Leu Trp Asn Val Ile
145                      150                      155                      160
Val Ser Ile Ile Arg Lys Gly Arg Ala Val Val Leu Thr Ser His Ser
                   165                      170                      175
Met Glu Glu Cys Glu Ala Leu
              180


          <210> 36
          <211> 13
          <212> PRT
          <213> Homo sapiens


          <400> 36
Gly Gln Ser Arg Lys Leu Asp Gly Gly Trp Leu Lys Val
1                   5                      10


                              18
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